

IN THE CLAIMS

CLEAN COPY OF AMENDED CLAIMS:

2. (AMENDED) The stream data reproducing apparatus according to claim 1, wherein

the branch definition information has information indicating a branch position and information indicating a branch destination, and

the reading processing portion is operable to start reading out the stream data from the branch destination when the reading of the stream data is completed up to the branch position.

3. (AMENDED) The stream data reproducing apparatus according to claim 2, wherein

the branch definition information further has information indicating the number of branches, and

the reading processing portion is operable to read out the stream data according to the number of branches.

a30 4. (AMENDED) The stream data reproducing apparatus according to claim 3, wherein

the branch definition information further has information indicating whether or not to permit branching, and

the reading processing portion is operable to perform a branch in reading out the stream data only if branching is permitted.

5. (AMENDED) The stream data reproducing apparatus according to claim 1, wherein

the recording medium is a portable recording medium.

6. (AMENDED) The stream data reproducing apparatus according to claim 2, wherein

the recording medium is a portable recording medium.

7. (AMENDED) The stream data reproducing apparatus according to claim 3, wherein

the recording medium is a portable recording medium.

8. (AMENDED) The stream data reproducing apparatus according to claim 4, wherein

the recording medium is a portable recording medium.

9. (AMENDED) A method of reading out and reproducing stream data stored in a recording medium comprising the steps of:

reading out branch definition information from the recording medium;

reading out the stream data from the recording medium according to the branch definition information; and

reproducing the read out stream data.

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cont
10. (AMENDED) A recording medium recorded with a stream data reproducing program, the program comprising code for:

reading out branch definition information from the recording medium;

reading out stream data from the recording medium according to the branch definition information; and

reproducing the read out stream data.

11. (AMENDED) A stream data reproducing program stored on a computer readable medium for enabling processing, said processing comprising the steps of:

reading out branch definition information from the computer readable medium;

reading out stream data from the computer readable medium according to the branch definition information; and

reproducing the read out stream data.

MARKED-UP COPY OF AMENDED ABSTRACT:

~~It is an object of the present invention to provide a~~
system and method of reproducing stream data according to which
the order of reading stream data, such as sound data, can be
controlled are provided. The sound data reproducing processing is
implemented by the reading processing portion 200 and the output
processing portion 210. The reading processing portion 200
sequentially reads the sound data stored in a CD/DVD 220 to the
buffer 161 according to the branch definition file stored in the
CD/DVD 220, while the output processing portion 210 sequentially
transfers the sound data read out to the buffer 161 to the sound
reproducing processor (SPU) 140.

MARKED-UP COPY OF AMENDED SPECIFICATION PARAGRAPHS:

Amend the paragraph beginning on page 1, line 10 and
ending on page 1, line 13 as follows:

The present invention relates to a method of
reproducing stream data such as sound data.

~~Description of the Background Art~~

Delete the heading SUMMARY OF THE INVENTION beginning
on page 1, line 20 and ending on page 1, line 20.

Amend the paragraph beginning on page 1, line 21 and
ending on page 1, line 26 as follows:

Conventionally, ~~t~~The sound data ~~thus~~ reproduced is
sequentially read from the CD or the like, and transferred as is
to the SPU for performance. Therefore, data having a length
corresponding to the actual performance time must be stored in
the CD or the like, even if the same phrase is repeated a number
of times.

Amend the paragraph beginning on page 2, line 1 and
ending on page 2, line 9 as follows:

Figs. 10A and 10B are charts for use in illustration of
the relation between sound data and actual performance. As shown
in these figures, only three kinds of phrases "A", "B" and "C"
are actually repeated in this case. However, as described above,
the content of the sound data (Fig. 10A) must be in complete

coincidence with the actual performance (Fig. 10B). Therefore, the size of the sound data such as PCM data having the same quality as a music CD is required~~enabled~~ to be significantly large.

SUMMARY OF THE INVENTION

Amend the paragraph beginning on page 3, line 9 and ending on page 3, line 13 as follows:

~~Another~~A recording medium according to the present invention also is recorded with stream data, branch definition information to control the order of reading the stream data, and a stream data reproducing program to read the stream data and reproduce the stream data.

Amend the paragraph beginning on page 3, line 14 and ending on page 3, line 16 as follows:

~~Note that~~The program can be distributed in the form of a CD-ROM, a DVD-ROM, or a portable recording medium such as a memory card or through a network.

Amend the paragraph beginning on page 4, line 17 and ending on page 4, line 19 as follows:

Figs. 6A to 6C are diagrams showing an illustrative case in which the decision ~~whether or not~~ to branch is controlled, ~~by way of illustration;~~

Delete the paragraph beginning on page 5, line 6 and ending on page 5, line 7 in its entirety.

Amend the paragraph beginning on page 5, line 8 and ending on page 5, line 11 as follows:

An entertainment system to which the present invention is applied will ~~be now~~ be described. The entertainment system for example executes an application such as a game provided by a CD/DVD (or through a network) or the like.

Amend the paragraph beginning on page 6, line 8 and ending on page 6, line 10 as follows:

The IOP 120 is an input/output sub processor for controlling data exchanges between the MPU 100 and peripherals (such as the CD/DVD decoder 130 and the SPU140).

Amend the paragraph beginning on page 9, line 2 and ending on page 9, line 6 as follows:

As shown in Fig. 3, the branch definition file 300 has a branch position offset 301, a branch destination offset 302, a branch counter 303, a branch number 304, and a permission flag 305. Elements and 301 to 305 may each be provided in multiple sets.

Amend the paragraph beginning on page 9, line 7 and ending on page 9, line 10 as follows:

The branch position offset 301 is data representing a position to branch. ~~and~~ For example, a byte address at the branch position counted from the head of the sound data is stored therein.

Amend the paragraph beginning on page 9, line 11 and ending on page 9, line 14 as follows:

The branch destination offset 302 is data representing the position to start reading after the execution of a branch. ~~and~~ For example, a byte address at the branch destination counted from the head of the sound data is stored therein.

Amend the paragraph beginning on page 10, line 6 and ending on page 10, line 8 as follows:

A pointer P1 indicating the reading start position is initialized to point to the head of the file storing the sound data.

Amend the paragraph beginning on page 11, line 17 and ending on page 12, line 3 as follows:

On the other hand, ~~Meanwhile,~~ if branching is permitted (S407: Yes), it is determined whether or not the value of a corresponding branch counter 303 is smaller than a value specified for a corresponding branch number 304 (S408). ~~As a result,~~ ~~i~~ If the value of the branch counter 303 is equal to or more than the specified branch number (S408: No), which means that the specified number of branches have been completed, the branch counter 303 is reset without branching (S409). Then, similarly to the case without a branch position between P1 and P2 as described above, the pointer P3 indicating the next reading

start position is substituted with "P2+1" (S405), and the data between P1 and P2 is read onto the buffer (S406).

Amend the paragraph beginning on page 12, line 4 and ending on page 12, line 13 as follows:

On the other hand, ~~Meanwhile,~~ if the value of the branch counter 303 is smaller than the specified branch number (S408: Yes), ~~t~~The value of the branch counter 303 is incremented by 1 ~~to branch~~. The pointer P3 indicating the next reading start position is substituted with a corresponding branch destination offset 302, while the pointer P2 indicating the present reading end position is substituted with the branch position offset 301 (S411). The data between P1 and P2, in other words, the data between the present reading start position and the branch position, is read onto the buffer 161 (S406).

Amend the paragraph beginning on page 12, line 25 and ending on page 13, line 8 as follows:

Figs. 5A and 5B are diagrams for use in illustration of the relation between sound data and actual performance when branching is employed. When the data is set as above~~below~~ described, the performance shown in Fig. 5B can be achieved. As shown in Fig. 5A, sound data consisting only of "A", "B" and "C" is prepared. The data in the branch definition file 300 shows that a branch is executed to the head of "B" after processing to the end of "B" and two (or more) branches are executed to the head of "A" after processing to the end of "C".

Amend the paragraph beginning on page 13, line 9 and ending on page 13, line 17 as follows:

~~As described above,~~ By the data reading processing according to the embodiment of the invention described above, sound data is read out according to the branch definition file 300; therefore, the order of reading the sound data can be controlled, and for the sound data in which the same phrase is repeated a number of times, the overlap can be reduced using branching. Therefore, the capacity of the recording medium such as the CD/DVD etc. storing the sound data may be significantly saved.

Amend the paragraph beginning on page 13, line 18 and ending on page 13, line 22 as follows:

Furthermore, since the permission flag 305 is provided in the branch definition file 300, indicating whether or not to branch, can be dynamically controlled, ~~so that~~ performance of a different arrangement may be provided depending on how a game or the like proceeds.

Amend the paragraph beginning on page 13, line 23 and ending on page 13, line 25 as follows:

Figs. 6A to 6C are diagrams illustrating ~~showing~~ a case in which the decision of whether or not to branch is controlled based on the progress of a game ~~by way of illustration~~.

Amend the paragraph beginning on page 13, line 26 and ending on page 14, line 8 as follows:

In a normal manner, at bpl in Fig. 6A, one branch is executed to the head of "B", and as shown in Fig. 6B, "B" is read out twice; if, however, the permission flag 305 is changed to a non-permission state before the decision of whether or not to branch at bpl is determined, no branch is executed at the position of bp2 as shown in Fig. 6C, and "C" is directly read out. Then, when the permission flag 305 is changed to a permission state, a branch is executed at bp3, and "B" is read out twice.

Amend the paragraph beginning on page 14, line 9 and ending on page 14, line 13 as follows:

Thus, according to the embodiment of the invention described above, the permission flag 305 may be changed to dynamically control whether or not to branch, so that in an application such as a game, the actual order of playing each phrase can be changed depending upon the progress of the application.

Amend the paragraph beginning on page 14, line 17 and ending on page 14, line 19 as follows:

As described above, sound data read out ~~out~~ into the buffer 161 is sequentially transferred to the SPU 140 by the output processing portion 210 for performance.

Amend the paragraph beginning on page 14, line 20 and ending on page 14, line 22 as follows:

The entertainment system can notify the application of occurrence of an event when the performance proceeds to a specific position during reproducing of the sound data.

Amend the paragraph beginning on page 15, line 26 and ending on page 16, line 3 as follows:

As shown in Fig. 8, the action definition file 800 has an action occurrence offset 801, and action data 802. ~~and~~ The action occurrence offset 801 and the action data 802 may each be provided in multiple sets.

Amend the paragraph beginning on page 16, line 4 and ending on page 16, line 7 as follows:

The action occurrence offset 801 is data indicating a position (mark position) to cause an action. ~~and~~ For example, a byte address at the position to cause an action counted from the head of the sound data is specified.

Amend the paragraph beginning on page 17, line 6 and ending on page 17, line 12 as follows:

~~As a result,~~ If there is no action occurrence position between P1 and P2 (S903: No), the pointer P1 indicating the start position of the region to be monitored is substituted with the value of the pointer P2 indicating the end position of the present region to be monitored in order to determine the next region to be monitored (S904), and the above-described processing is repeated.

Amend the paragraph beginning on page 17, line 13 and ending on page 17, line 16 as follows:

On the other hand, ~~Meanwhile,~~ if the action occurrence offset 801 specified in the action definition file 800 is included between P1 and P2 (S903: Yes), the application is notified of corresponding action data 802 (S905).

Amend the paragraph beginning on page 17, line 22 and ending on page 18, line 5 as follows:

As in the foregoing, in the sound reproduction monitoring processing, the position of sound data actually

reproduced by the SPU 140 is monitored, and when the sound data performance has reached ~~to~~ a previously specified mark position, the application is notified of occurrence of the event. Therefore, the application can readily implement the processing in complete synchronization with the sound data reproduction. As a result, if CD/DVD cannot be smoothly read and a stream is delayed, an action in complete synchronization with sound reproduction can be achieved.

Amend the paragraph beginning on page 18, line 6 and ending on page 18, line 10 as follows:

~~Note that~~ In the foregoing, ~~the~~ a sound data reproducing processing is described. ~~while~~ The present invention is not limited, however, to the processing of ~~the~~ sound data and can be applied to the processing of reproducing other stream data (such as video data).

MARKED-UP COPY OF AMENDED CLAIMS:

2. The stream data reproducing apparatus according to claim 1, wherein

the branch definition information has information indicating a branch position and information indicating a branch destination, and

the reading processing portion is operable to ~~starts~~ reading out the stream data from the branch destination when the reading of the stream data is completed up to the branch position.

3. The stream data reproducing apparatus according to claim 2, wherein

the branch definition information further has information indicating the number of branches, and

the reading processing portion is operable to ~~reads~~ out the stream data according to ~~with~~ the number of branches.

4. The stream data reproducing apparatus according to claim 3, wherein

the branch definition information further has information

indicating whether or not to permit branching, and

the reading processing portion is operable to perform reads
~~with a branch in reading out the stream data~~ only if branching is
permitted.

5. The stream data reproducing apparatus according to ~~any~~
~~one of claims 1~~, wherein

the recording medium is a portable recording medium.

6. The stream data reproducing apparatus according to ~~any~~
~~one of claims 2~~, wherein

the recording medium is a portable recording medium.

7. The stream data reproducing apparatus according to ~~any~~
~~one of claims 3~~, wherein

the recording medium is a portable recording medium.

8. The stream data reproducing apparatus according to ~~any~~
~~one of claims 4~~, wherein

the recording medium is a portable recording medium.

9. A method of reading out and reproducing stream data
~~according to which stream data stored in a recording medium is~~
~~read out and reproduced~~, comprising the steps of:

reading out branch definition information from the recording
medium;

reading out the stream data from the recording medium
according to the branch definition information; and

reproducing the read out stream data.

10. A recording medium recorded with a stream data
reproducing program, the program comprising code for: enabling a
~~processing comprising the steps of:~~

reading out branch definition information from the recording
medium;

reading out ~~the~~ stream data from the recording medium

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according to the branch definition information; and
reproducing the read out stream data.

11. A stream data reproducing program stored on a computer readable medium for enabling a—processing, said processing comprising the steps of:

reading out branch definition information from the computer readablerecording medium;

reading out stream data from the computer readable recording medium according to the branch definition information; and
reproducing the read out stream data.